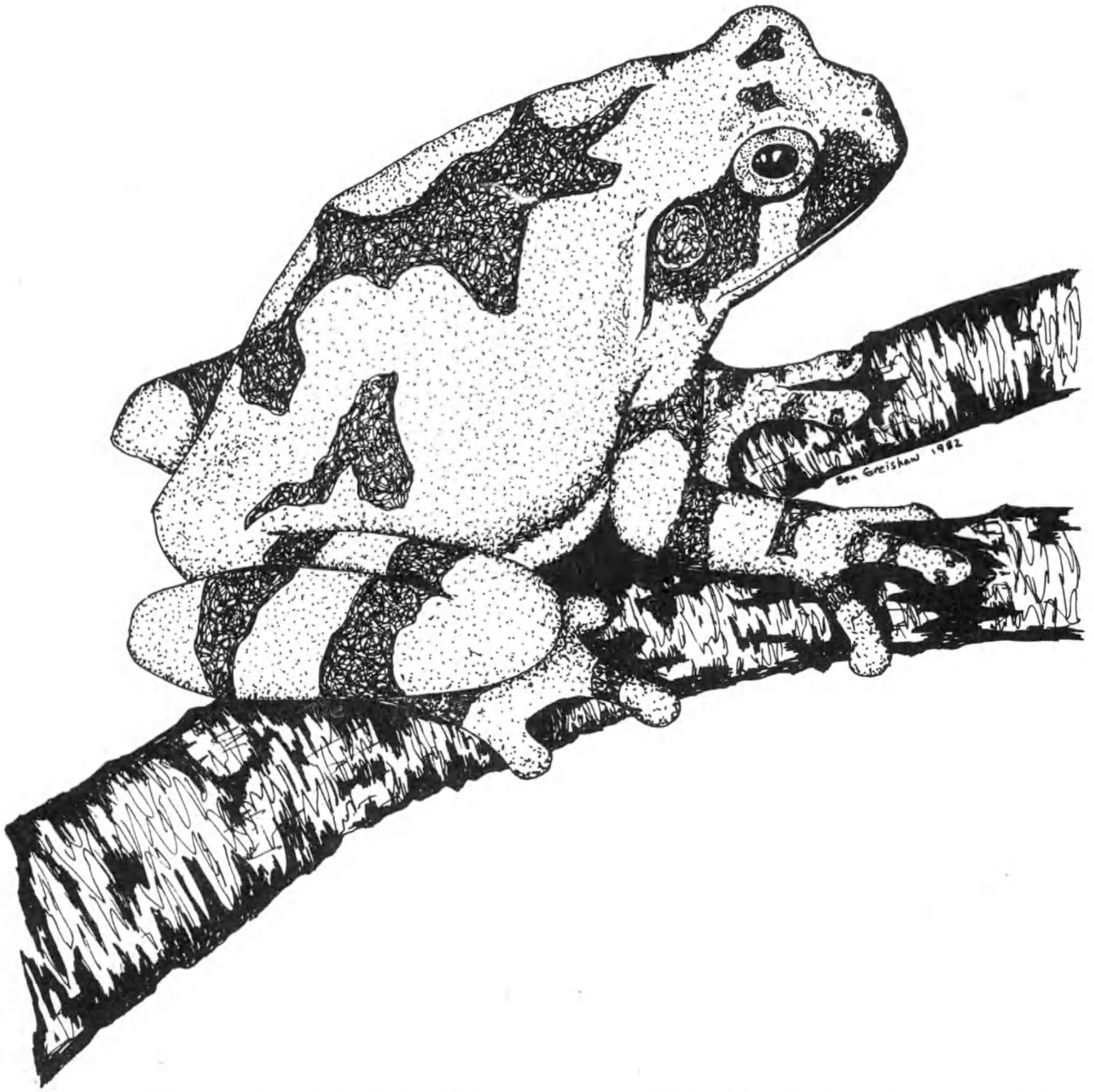
CATESBEIANA



BULLETIN OF THE VIRGINIA HERPETOLOGICAL SOCIETY

VOLUME 2 1982 NUMBER 2

C A T E S B E I A N A

Bulletin of the Virginia Herpetological Society

Volume 2 | Fall, 1982 | No. 2

BULLETIN INFORMATION

The Bulletin of the Virginia Herpetological Society is issued twice a year by the Virginia Herpetological Society. Membership is open to all individuals interested in the study of amphibians and reptiles. Dues are $5.00 per volume year for adults and $3.00 for individuals under the age of 18. Membership includes one subscription to Catesbeiana. Dues are payable to : Ben Greishaw, VaHS Treasurer, 7622 Hollins Road, Richmond, VA 23229. Herpetological societies desiring exchange of publications should send copies of their publications to : Dr. Donald Merkle, Dept. of Natural Sciences, Longwood College, Farmville, VA 23901. Any materials for publication should also be sent to Don Merkle.

MEETING NOTICE

The fall meeting of VaHS will be held at the University of Richmond in Richmond, Virginia on Saturday October 9, 1982. See pages 7-8 for details and a map. Please plan on attending!

EDITOR'S NOTE

The spring meetings of VaHS which were held at South Isle Plantation in Charlotte County, Virginia rekindled one of the highlights of earlier VaHS meetings - a herp foray! Between meetings, members got a chance to look for herps in some of the varied habitats that are found on the 1200+ acre estate. While herps were not out in great numbers that day, VaHS members did get a chance to see some of the more common herps. Highlight of the excursion was when everyone returned to their vehicles and asked who had released a large Coluber constrictor near a truck. Everyone was watching the snake slither away before anyone realized that no one had released the snake! Included in the tour was a visit to one of the ponds where Ambystoma talpoideum was first collected in the state of Virginia. However despite several courageous attempts to collect larvae, none were seined up.

The business meeting was taken up mostly by going over the revised VaHS constitution which Jack Brooks drafted and presented (the entire draft is on the following pages). Anyone with comments, suggestions, or criticisms should contact: Dr. Jack Brooks, Dept. of Biology, College of William and Mary, Williamsburg, VA 23185.

There was discussion on ways to attract new VaHS members, particular younger enthusiasts. It was decided to have a special dues rate of $3.00 per year for individuals under the age of 18, and to start family memberships for $7.50 per year which includes one subscription to Catesbeiana. Copies of the new VaHS Information sheet that appears on the last page of this issue are available for distribution. Contact: Dr. Joe Mitchell, Dept. of Biology, University of Richmond, Richmond, VA 23173 and tell him how many you would like.

Special thanks are extended to Eve and Bob Bader for providing lunch and dinner for all VaHS participants in the spring meetings. Never has possum and otter tasted so good!

I would like to extend an invitation for all VaHS members to submit any information that they feel would be appropriate for inclusion in Catesbeiana. The new section "Field Notes" should allow a new avenue for some distributional information. I am sure that there will be many county records to update the distribution maps that appear in "Snakes of Virginia" (see p. 10 for special offer).

New Officers and an Editor will be elected at the Fall Meetings. Be sure to attend.

Cover concept and design for Catesbeiana, Vols. 1 & 2, by Ben Greishaw

DUES FOR THE COMING YEAR ARE NOW DUE!!!

CONSTITUTION

ARTICLE I. Name

Section 1. The name of this organization is the Virginia Herpetology Society, hereafter referred to as the "Society".

ARTICLE II. Purpose

Section 1. To work to perpetuate the conservation of reptiles and amphibians through education and dissemination of scientific information through the facilities of the Society.

Section 2. To encourage conservation of wildlife in general, and of reptiles and amphibians in particular.

Section 3. To promote research in herpetology by the sharing of information among members and through cooperation with amateur and professional herpetologists.

Section 4. To educate the public and members, and to exchange information and resources with other herp societies by means of a bulletin and specific activities such as field trips or speakers.

ARTICLE III. By-laws

The Society shall establish by-laws concerning the organization and procedures to be followed.

ARTICLE IV. General Prohibitions

Notwithstanding any provision of this Constitution or the By-laws which might be to a contrary interpretation:

1. the Society shall be organized and operated exclusively for scientific and educational purposes;
2. no part of the net earnings of the Society shall or may under any circumstances inure to the benefit of any private shareholder or individual;
3. no substantial part of the activities of the Society shall consist of carrying on propaganda, or otherwise attempting to influence legislation;
4. the Society shall not participate in, or intervene in (including publishing or distribution of statements), any political campaign on behalf of any candidate for public office;
5. the Society shall not be organized or operated for profit;
6. the Society shall not:
   a. lend any part of its income or corpus, without the receipt of adequate security and a reasonable rate of interest;
   b. pay any compensation, in excess of a reasonable allowance for salaries or other compensation for personal services actually rendered;
   c. make any part of its services available on a preferential basis
   d. make any purchase of securities or any other property for more than adequate consideration in money or money's worth from;
   e. sell any securities or other property for less than adequate consideration in money or money's worth to; or
   f. engage in any other transactions which result in a substantial diversion of its income or corpus to; any officer, or substantial contributor to the organization.

The prohibitions contained in this subsection 6 do not mean to imply that the organization may make such loans, payments, or sales to or purchases from

anyone else unless such authority be given or implied by other provisions of this Constitution or By-laws.

ARTICLE V. Amendments

Section 1. Amendments to the constitution may be proposed by a petition to the secretary signed by 25% of the membership.

Section 2. Proposed amendments must be passed by a 2/3 majority of the members in attendance at a meeting of the Society.

ARTICLE VI. Distribution on Dissolution

Upon the dissolution of the Society, the officers shall, after paying or making provision for the payment of all of the liabilities of the Society, dispose of all of the assets of the Society exclusively for the purposes of the Society in such manner, or to such organization or organizations organized and operated exclusively for charitable, educational, religious, or scientific purposes as shall at the time quality as an exempt organization or organizations under section 501 (c) (3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law), as the officers shall determine. Any such assets not so disposed of shall be disposed of by the Court of Common Pleas of the county in which the principal office of the Society is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes.

VIRGINIA HERPETOLOGICAL SOCIETY BY-LAWS

ARTICLE I. Members

Section 1. Membership shall be open to all persons who shall make formal application to the Secretary and pay the Treasurer the prescribed dues.

Section 2. The officers of the Society shall have the right to refuse any new member or to terminate the membership of an existing member for cause and without prior notice. However, a terminated person may appeal to the general meeting of the Society. Termination of membership: Based upon request, lack of support for the VaHS program, or evidence that the individual is engaging in activities that are contrary to the stated objectives of the VaHS.

Section 3. Each paid membership is entitled to one vote.

ARTICLE II. The Officers

Section 1. The officers of the Society shall be of two kinds, elective and appointive.

a. The elected officers shall be President, Vice-president Secretary, Treasurer and the immediate Past-president.

b. The appointed officers shall be Editor of the Society newsletter and the chairpersons of the standing committees, and shall be appointed by the elected officers.

Section 2. No one individual may hold two or more elective offices concurrently.

Section 3. The terms of office for all elected officers of the Society shall be for one year. No elective office may be held by the same person for more than 4 consecutive terms.

Section 4. The duties of the elective officers shall be as follows:

a. The president shall preside at meetings of the Society and its officers; shall be nominal head of the Society; shall rule on questions of procedure that may arise; shall appoint ad hoc committees at his/her discretion.

b. The Vice-president shall fulfill the duties of the Presdient when the latter is absent. He/she shall assume the Presidency should that office become vacant during a term.

c. The Secretary shall maintain the records of the Society and its officers; shall notify the membership of pertinent business; shall be responsible for all general correspondance of the Society; shall be responsible for keeping the mailing list, accepting and processing applications for membership, and putting out all PR for soliciting members.

d. The Treasurer shall keep records and accounts of the Society including all monies received and disbursed, shall collect the annual dues and maintain the membership roster; and shall be responsible for all financial reports required by the business of the Society. The Treasurer shall make a financial report to the membership at each meeting.

e. The President will appoint member(s) to fill vacated office(s) until the next scheduled election.

Section 5. All records and implements of office shall be turned over by any officer to his successor immediately subsequent to the latter's assumption of the office.

Section 6. The duties of the Editor of the Society bulletin shall be as follows:

The Editor shall be responsible for all phases of its publication and may appoint staff members to assist, in as much as the newsletter is the principal mechanism for written communication to the membership, the Editor is obligated to publish all communications of the Society and its officers on first priority and to include, as space permits, other items consonant with the stated objectives of the Society.

The editor shall report annually to the officers to whom he/she is responsible.

ARTICLE III. The Executive Council of the Society

Section 1. The Executive Council of the Society shall consist of the President, Vice-president, Secretary, Treasurer, and immediate Past-president and the Editor of the Society newsletter, and chairpersons of the standing committees.

Section 2. The Executive Council shall be empowered to manage the affairs of the Society.

Section 3. The Executive Council shall fill any vacancy occuring among officers, except that of President, by an appointment for the unexpired term.

Section 4. The Executive Council shall be specifically responsible for any publications of the Society and shall set policy as is needed to coordinate the contents of the various media so as to further the stated objectives of the Society and to insure the availability and distribution of the several items.

ARTICLE IV: Elections of Officers

Section 1. The President shall appoint members of the Society to serve as a nominating committee.

Section 2. The Nominating Committee shall present a slate of at least

one candidate for each office to be filled. The slate must be presented at the fall meeting, at which time nominations may be made by the membership.

Section 3. The Nominating Committee, or a member of the Society, proposing a nominee, shall obtain assent of the candidate to serve if elected.

Section 4. Voting shall take place at the fall meeting. The Secretary shall count the votes and the results of the election shall be communicated to the membership via the Bulletin.

Section 5. The Secretary shall inform the elected candidates of their election. Newly elected persons will take office immediately following the election.

ARTICLE V. Meetings

Section 1. The Society shall hold a meeting at a time and place set by the Executive Council of the Society.

Section 2. The membership shall be informed in writing of the time and place of the meetings not later than one month prior to the opening of the meeting.

Section 3. Special meetings may be called by vote of a majority of the Executive Council, or on a petition of a quorum of the membership. The time and place of such special meetings must be announced to the membership in writing at least two weeks prior to the meeting.

Section 4. 50% of the paid membership will constitute a quorum to petition for a special meeting.

Section 5. All meetings shall be conducted under Robert's Rules of Order.

ARTICLE VI. Dues

Section 1. The Executive Council shall be authorized to establish such dues as are compatible with the financial status of the Society.

Section 2. Dues shall not exceed $10 annually.

Section 3. A member in arrears for payment of dues for a period of 6 months after conclusion of the current membership year shall be dropped from the role after due notice from the Secretary.

Section 4. Dues for students and those under 18 years of age shall be $3.00. Dues for a family membership shall be $8.00.

ARTICLE VII. Fiscal Year

Section 1. The fiscal year of the Society shall embrace the period of 1 January through 31 December of the same year.

ARTICLE VIII. Amendment of the By-laws

Section 1. Amendments may be proposed by the Executive Council or by petition to the Secretary by 25% of the members of the Society.

Section 2. Proposed amendments must be submitted in writing to the Secretary at least three months before the general meetings at which time they are to be discussed.

Section 3. Such amendments shall be submitted in writing by the Secretary to the general membership at least two months prior to the meeting at which they are to be discussed.

Section 4. To be approved, an amendment must receive a positive vote by two-thirds of those voting at the general meeting.

Section 5. Any adopted amendment shall become an integral part of the by-laws and the Secretary shall be instructed to publish them in the next scheduled issue of the Bulletin.

ARTICLE IX. A Found Member of ESHL

The VaHS is a founding member of the Eastern Seaboard Herpetological League -- a federation of municipal and state herpetological groups covering much of the eastern seaboard of the United States.

Under the ESHL rules and by-laws, the VaHS President (on a designee) representative of VaHS to the ESHL voting board. One of the VaHS members shall be designated as an official VaHS representative, as required by ESHL Revised Regulations (March 1975). An alternate to the VaHS Coordinator shall be name to take part in ESHL voting actions when the coordinator is uable to attend ESHL meetings.

ARTICLE X. VaHS Seal

The official seal of the Virginia Herpetological Society (VaHS), shall be a perfect circle representing the total membership and it shall enclose the outline or silhouette of the Commonwealth of Virginia; the circle shall touch upon the eastern shore, the Great Dismal Swamp, and the extreme southwestern tip of the state in the vicinity of Cumberland Gap National Historical Park; above the state outline in the space made by the greater arc, is a silhouette of a black rate snake (Elaphe o. obsoleta) to represent the reptilians native to Virginia; in the lower arc beneath the state outline is a likeness of the spotted salamander (Ambystoma maculatum) to represent all indigenous amphibians. Both of these species are believed to be statewide reflecting the geographic limits of the society. The seal dates from the founding of the society in March of 1958, and is affixed hereto: (see top of page 24).

MEETING INFORMATION - 9 OCTOBER 1982

Place: Gottwald Science Center, University of Richmond, Richmond, VA

Rooms: E (=east wing)-107 (business meeting) and CB-01 (meeting auditorium)

Times: Business meeting - 10:00-12:00
Paper session - 1:00-5:00

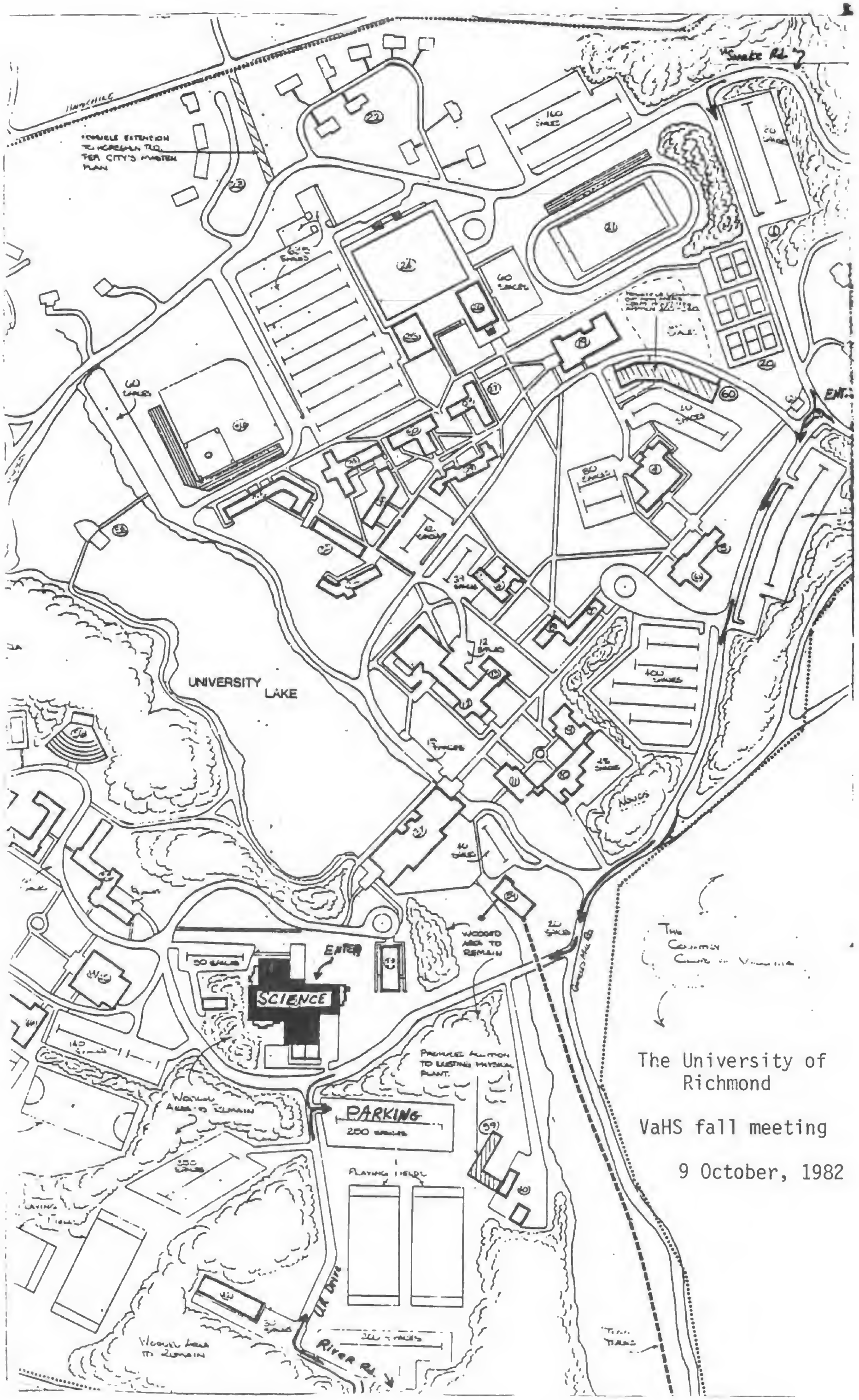
Lunch: there are local establishments but these are off campus. If you bring your lunch, refreshments will be available.

Directions: From south of the James River: take Huguenot bridge (Rt. 147) to River Road, turn left (at shopping center) and then first right on U.R. Drive, proceed to the parking area (see map).

From north of the James River (I-64): take Univ. Richmond exit to Glenside Road south, follow to Three Chopt Rd. (third light), left on Three Chopt, take a right on Boatwright (=snake) Rd. then a left at the bottom of the curves, enter UR at main entrance and follow arrows on the map to the parking area.

Enter the science building from the Westhampton Lake (north) side.

Information: Dr. Joseph C. Mitchell, Dept. of Biology, Univ. of Richmond, Richmond VA 23173. (804-285-6275)


Semple Rd.
UNIVERSITY LAKE
SCIENCE
ENTER
PARKING
200 SPACES
PLAYING FIELDS
River Rd.
The University of Richmond
VaHS fall meeting
9 October, 1982

Virginia Herpetological Society
Membership List (June 1982)

Adler, K.A., Section of Neurobiology and Behavior, Cornell University, Seeley G. Mudd Building, Ithaca, NY 14853
Anderson, M.L., 1016 Grove Lane, NW, Roanoke, VA 24102
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Bader, R.A., Route 2, Box 78, Brookneal, VA 24528
Barron, A., 4809 E. Seminary Ave., Richmond, VA 23227
Bazuin, J.B., Jr., 1200 Washington St., #207E, Alexandria, VA 22314
Brittle, D.L., Counselor, Caroline High School, Milford, VA 22514
Brown, R.C., Box 154, Fieldale, VA 24089
Carico, K. and L., 511 Brevard St., Lynchburg, VA 24501
Cloud, W.T., 1710 Meadowbrook Rd., Charlottesville, VA 22901
Craig, C.M., Route 5, Box 355, Bedford, VA 24523
Croy, S., Biology Dept. Herbarium, VPI and St. University, Blacksburg, VA 24061
Dodd, C.K., Jr., 1530 Northgate Sq. Apt. 22B, Reston, VA 22090
Dunson, W.A., Dept. of Biology, Pennsylvania State University, 208 Erwin W. Mueller Laboratory, University Park, PA 16802
Fisher, E., Dept. of Biology, James Madison University, Harrisonburg, VA 22807
Funderburg, J.B., 1304 Currituck Ave., Raleigh, NC 27609
Garwin, J., Route 1, Box 148, Aldie, VA 22001
Gourley, E.V., Dept. of Biology, Radford University, Radford, VA 24141
Greishaw, B., 7622 Hollins Rd., Richmond, VA 23229
Grim, D.B., PO Box 38, Stephenson, VA 22656
Guillaudeu, R.L., 313 Park Ave., Falls Church, VA 22046
Hart, W.D., Route 6, Box 290, Glen Allen, VA 23060
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Hooper, C.S. III, PO Box 523, Crewe, VA 23930
Gwynn, J.V., 2503 Brunswick Rd., Charlottesville, VA 22903
Jenssen, T.A., Dept. of Biology, VPI and St. University, Blacksburg, VA 24061
Jopson, H.G.M., PO Box 26, Bridgewater, VA 22812
Kunze, L., Biology, Virginia Western Community College, Box 4195, Roanoke, VA 24105
Lawrence, D., 4310 Old Spanish Trail, Apt. 8, Roanoke, VA 24017
Legge, W.R. III, Route 4, Box 43A, Winchester, VA 22601
Library, Dept. of Herpetology, American Museum of Natural History, Central Park West at 79th St., NY 10024
Library, Division of Reptiles and Amphibians, National Museum of Natural History, Washington, DC 20560
Library, Virginia Highlands Community College, PO Box 828, Abdington, VA 24210
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Shelton, P.C., Clinch Valley College of University of Virginia, P.O. Box 16, Wise, VA 24293
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Whitt, S.K., Dept. of Biology, Lynchburg College, Lynchburg, VA 24501
Worthington, R.D., Dept. of Biological Sciences, University of Texas at El Paso, El Paso, TX 79968
Zug, G.R., 644 N. Harrison Street, Arlington, VA 22205

NOTE: Please send any corrections or changes to the secretary.

RECENT PUBLICATIONS IN VIRGINIA HERPETOLOGY

NEW BOOK: Snakes of Virginia - by Donald W. Linzey and Michael J. Clifford has been published by University Press of Virginia. The book provides information on the identification, distribution, habits, habitats, folklore, and other details of all species of Virginia snakes. The 159 page hardcover book contains 53 color plates, numerous drawings, and range maps for all species. The book is available at bookstores for $15.95 plus tax, but Mike Clifford, a lifelong supporter of VaHS has agreed to allow VaHS members to purchase the book directly from him at the reduced price of $13.64 post paid. Checks should be made out to "Mike Clifford" and sent to him at the County Extension Office, Nottoway, VA 23955.

Mike Clifford also would like to announce that his booklet " Reptiles and Amphibians: 4-H Project Book" has been reprinted and is available for those 4-H clubs wishing to use it from the Extension Division of Virginia Polytechnic Institute and State University. It is listed as Publication # 676.

NATIONAL HERPETOLOGY MEETINGS HELD IN RALEIGH, NORTH CAROLINA

VaHS was well represented at the joint meetings of the Society for the Study of Amphibians and Reptiles and the Herpetologist' League held August 1-6, 1982 at Raleigh, North Carolina. Well over a dozen VaHS members were in attendance. VaHS president Bob Bader presented a slide show entitled" Crocodile farms in Thailand" as part of the Sixth annual Regional Society Workshop. The theme of this years program was "Exotic places, exoctic herps: Travels throughout the World".

A number of talks dealt with various aspects of Virginia herpetology. Abstracts were available for three of these presentations and they are shown on the following page. Two talks for which no abstracts were available were part of the featured symposium on " Molecular and Genomic Evolution of Amphibians and Reptiles" . Doug Gill (University of Maryland) discussed his long term studies of the red spotted newt Notophthalmus v. viridescens in the Shenandoah National Park, Virginia. Richard Highton (University of Maryland) reported that Plethodon kentucki is a valid species and that it does occur in southwestern Virginia. W.H. Martin presented a talk entitled "Changes in the distribution of Crotalus horridus"where he referred to some of the data he has collected over a number of years in studying rattlesnake populations in the Shenandoah National Park, Virginia.

Three Virginia Biologists Speak at National Herpetology Meetings

The following abstracts are from talks given recently at the annual meetings of the Society for the Study of Amphibians and Reptiles and the Herpetologists' League held in Raleigh, North Carolina.

Merkle, Donald A.
Longwood College
Genetic variation in the Cottonmouth Water Moccasin Agkistrodon piscivorous at the northern edge of its distribution.

Genetic variation at 21 presumptive genetic loci was examined by standard electrophoretic techniques in 7 populations of Agkistrodon p. piscivorus at the northernmost limit of its distribution in southeastern Virginia. Several factors including potential biogeographical barriers such as the James River have disrupted the range of this species in the state. The effects of isolation on the genetic make-up of these populations will be discussed.

Joseph C. Mitchell
University of Richmond
Life history aspects of Chrysemys picta and Sternotherus odoratus populations in Virginia.
The population ecology and demography of the freshwater turtles Chrysemys picta and Sternotherus odoratus were studied for three years in urban lakes in central Virginia. An intensive mark-recapture program was conducted in a golf course lake and monthly samples were obtained from a nearby lake. Age at maturity between lakes differed by as much as two years for female C. picta and one year for males. Female and male S. odoratus reached maturity at the same age at both sites but males reached maturity two years earlier than females. In the golf course lake growth was sex-specific for C. picta but not for S. odoratus. Population sizes were similar when estimated with the triple-catch method. Survivorship was high for all age and sex groups except for C. picta juveniles. Population age structures are compared and a major problem with the study of S. odoratus population ecology is pointed out.

Wiley, J. E.
St. Paul's College, Lawrenceville, Virginia 23868
POSSIBLE ORIGIN OF A POPULATION OF HYLA VERSICOLOR
G-banded and silver-stained chromosomes from North Carolina and Virginia populations of Hyla chrysoscelis and H. versicolor were compared. Two chromosomally distinct populations of H. chrysoscelis were found. One population is found in eastern N.C. and southeastern Va. and is characterized by having the nucleolar organizing region (NOR) on the long arm of chromosome pair 8. The other population is found in western N.C. and has the NOR on the short arm of chromosome pair 6. The H. versicolor population in south-central Va. and north-central N.C. has both the chromosome 6 and 8 NORs (one pair of each) and the chromosome banding patterns of both populations of H. chrysoscelis. This suggests that the two H. chrysoscelis populations may be distinct species.

FIELD NOTES

This section provides a means of publishing natural history information on Virginia's amphibians and reptiles which does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior and other areas are welcomed. Reports can be on a single species, groups of species or fauna from selected areas, such as a state park or county. The format for these reports is TITLE (species or area), COUNTY and LOCATION, DATE OF OBSERVATION, OBSERVERS, DATA AND OBSERVATIONS. Names and addresses of authors should appear one line below the report. Consult published notes or the editor of this section if your information does not fit this format.

If the note includes information on geographic distribution, a voucher specimen or color slide should be taken for verification and deposited in a recognized museum or sent to this editor. Species identification for observational records should be verified by a second person.

Send records (double spaced, typed) or inquiries to Dr. Joseph C. Mitchell, Dept. of Biology, University of Richmond, Richmond, VA 23173.

The correct citation is: Pague, C. A. and B. J. Larson. 1982. Field notes: Oconeechee State Park. Catesbeiana, Bull. Virginia Herpetol. Soc. 2(2):12.

OCONEECHEE STATE PARK: Virginia, Mecklenburg Co., 2.4 km E Clarksville. 18-19 June, 1982. C. A. Pague and B. J. Larson. Weather: warm and humid with afternoon showers both days. The previous week had a great deal of rain. Observations:

Gastrophryne carolinensis (Narrow-mouth toad) - calling, amplexing, eggs and larvae present. Large numbers calling throughout the county.

Hyla versicolor (Common gray treefrog) - calling from small trees and and shrubs around rain pools and ditches. No females seen.

Hyla chrysoscelis (Cope's gray treefrog) - calling from small shrubs and trees around ditches and rain pools. Some calling from ground around pools. No females seen.

Rana utricularia (Southern leopard frog) - one individual found adjacent a rain pool in a dirt road.

Scincella lateralis (Ground skink) - found along a dirt road in game management area.

Bufo woodhousei fowleri (Fowler's toad) - several seen along dirt road and on trails in park. One female collected.

Terrapene carolina (Eastern box turtle) - several were seen crossing the road near the state park.

Acris crepitans (Northern cricket frog) - a chorus was heard in a vegetation-filled cove of Buggs Island Lake in the campground.

Eumeces fasciatus (Eastern five-lined skink) - several seen and collected along the adge of the lake (Buggs Island Lake) where forest is open.

Sceloporus undulatus (Eastern fence lizard) - abundant along the edge of Buggs Island Lake where driftwood and fallen trees abound and the edge of the forest meets the lake.

Specimens collected will be deposited in the National Museum of Natural History.

Christopher A. Pague and Bonnie J. Larson, Lafayette Zoological Park, Norfolk, VA 23504

A Checklist of Amphibians and Reptiles of Back Bay National Wildlife Refuge and False Cape State Park, Virginia Beach, Virginia.

Christopher A. Pague, Lafayette Zoological Park, Norfolk, VA 23504 and Joseph C. Mitchell, Department of Biology, University of Richmond, Richmond, VA 23173

Back Bay National Wildlife Refuge and False Cape State Park are located in the southeastern corner of Virginia. Both areas form the northernmost portion of the Currituck spit, a barrier beach system separating Back Bay (Virginia) and Currituck Sound (North Carolina) from the Atlantic Ocean. Back Bay and Currituck Sound are large bodies of brackish water supporting vast marshes long known as waterfowl wintering areas and more recently as largemouth bass fishing grounds. This portion of Virginia has received little herpetological attention. Werler and McCallion (1951) surveyed the herpetofauna of Princess Anne County, but no extensive collections were made in the barrier beach region perhaps because transportation was very difficult (Holland, 1975). Other lists of herpetofauna used in recent environmental statements (See U.S. Fish and Wildlife Service 1981 and Howard et al., 1976) were apparently drawn from regional information and not from actual field work.

During the years 1980-81 we conducted an intensive survey of the herptiles of Back Bay National Wildlife Refuge and False Cape State Park. We utilized rubber bands, turtle traps, dip nets, seine nets, hoop traps, tongs, hands, road kills, and observation. The results of this survey (Table 1) show a depauperate fauna especially when compared to other locales in southeastern Virginia (Pague and Mitchell, 1981). A few species not found are expected to occur. For instance the amphiuma (Amphiuma means) though not found in the study areas, has been found in similar habitat a few miles south in Mackay Island National Wildlife Refuge, Currituck County, North Carolina (unpublished data). There are no obvious barriers that would prevent its occurence in Back Bay National Wildlife Refuge.

Salamanders are not represented on the list (Table 1), but as stated above, the amphiuma probably occurs. Though the frogs and toads are well represented, several species common elsewhere are notably absent, particularly the spring peeper (Hyla crucifer), Cope's gray treefrog (H. chrysoscelis), green frog (Rana clamitans), and eastern spadefoot toad (Scaphiopus holbrooki). The eastern spadefoot toad may occur in the study area, but because of its irregular breeding schedule, it may have escaped our notice.

Turtles are well represented in the refuge and state park, but once again there are notable absences: stinkpot (Sternotherus odoratus), spotted turtle (Clemmys guttata), and diamondback terrapin (Malaclemys terrapin). The lizards are represented in the area by only two species. The eastern glass lizard (Ophisaurus ventralis) is an addition to the herpetofauna of Virginia (Pague, Mitchell, and Merkle, in press). That no skinks were found was suprising given the apparently optimal habitat.

Snakes are the best represented group with ten species. Once again, several species are absent that one would expect to encounter. The black rat snake (Elaphe o. obsoleta)was found only once on the Barrier spit (False Cape State Park) and once on a mid-Back Bay island (Cedar Island).

TABLE 1: The herpetofauna of Back Bay National Wildlife Refuge and False Cape State Park, Virginia Beach, Virginia.

Amphibians

- Frogs and toads

Bufo terrestris
Southern toad
Bufo woodhousei fowleri
Fowler's toad
Hyla cinerea
Green treefrog
Hyla squirella
Squirrel treefrog
Pseudacris brimleyi
Brimley's treefrog
Rana catesbeiana
Bullfrog
Rana sphenocephala
Southern leopard frog
Gastrophryne carolinensis
Narrow-mouth Toad

Reptiles

- Turtles

Chelydra s. serpentina
Common snapping turtle
Kinosternon s. subrubrum
Eastern mud turtle
Chrysemys p. picta
Eastern painted turtle
Pseudemys r. rubiventris
Redbelly turtle
Pseudemys s. scripta
Yellowbelly slider
Terrapene c. carolina
Eastern Box turtle
Caretta caretta
Loggerhead

- Lizards

Cnemidophorus s. sexlineatus
Six-lined racerunner
Ophisaurus ventralis
Eastern glass lizard

- Snakes

Coluber c. constricor
Northern Black racer
Elaphe o. obsoleta
Black rat snake
Farancia e. erytrogramma
Rainbow snake
Heterodon platyrhinos
Eastern Hognose snake
Lampropeltis g. getulus
Eastern Kingsnake
Nerodia s. sipedon
Northern watersnake
Nerodia taxispilota
Brown watersnake
Opheodrys aestivus
Rough green snake
Storeria d. dekayi
Northern Brown snake
Thamnophis s. sauritus
Eastern ribbon snake
Agkistrodon p. piscivorous
Eastern Cottonmouth

The 28 species of amphibians and reptiles found in Back Bay National Wildlife Refuge and False Cape State Park indicate a restrictive habitat. Sandy soil, salt spray, vegetation types, and lack of permanent fresh water are potential forces which may act to restrict the development of a more complex herpetofauna. Past use of land has resulted in complete deforestation (almost totally denuded) in most of the study area (Goldsmith, et al. (eds.), 1977).

For the terrestrial forms, undoubtedly, occurence is based on an invasion during the past 45 years as vegetation recolonized the Currituck Spit. For aquatic forms the fauna has been molded by a combination of long-term ecological changes accompanying post-glacial coastal inundation, short-term ecological changes due to the fragile structure of barrier beaches, and recently to the manipulations of the habitat by man.

Acknowledgements: The U.S. Fish and Wildlife Service and Virginia Division of State Parks issued the necessary permits for the survey. Wendy Mitchell, Allen Hundley, Don Merkle, Tom Nichols, Connie Sweet, John Foster, Tim Palowski, Paul Schmidt, Jim Pague, Butch Jones, and Bonnie Larson helped greatly with the field work. The Department of Herpetology, National Museum of Natural History provided various supplies. The staffs of the refuge and state park were most helpful. Bonnie Larson made helpful comments on the manuscript.

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March 9, 1982

To Members of the ASIH:

I hope you will take the time to seriously consider joining us in this endeavor to protect the Endangered Species Act from being weakened. The Act, which must be reauthorized by Congress this year, is important in overall efforts to safeguard biological diversity, particularly in the example it sets to other nations. I consider it critical that the United States continue its leadership role in the preservation of species and genetic diversity. A strong Endangered Species Act is essential to this purpose.

As scientists I feel we have a special role in supporting the Act's purpose and emphasizing its importance. I urge you to fill out and return the enclosed authorization form.

Sincerely yours,

Thomas E. Lovejoy

Thomas E. Lovejoy
Vice President for Science

P.s. If you have already been contacted and agreed to support our common effort, please pass this along to a colleague. Gaining wider endorsement for the Scientists Committee is a most effective way to strengthen our common voice in this debate.

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Endangered Species Act in Jeopardy

Industries are thronging to Congress to gut the law, but scientists are getting more active in its defense

The United States is in a far better position than most of the world to protect the diversity of life within its borders. But the most important symbol of that protection, the Endangered Species Act of 1973, is now under attack from many sides as Congress gears up to consider reauthorization of the legislation, which is due to expire at the end of September. The budget for enforcing the act has also been targeted for dramatic shrinkage by the Reagan Administration.

In the past, the act has garnered more notoriety than it probably deserves, mainly thanks to the Tellico dam controversy in Tennessee which made the snail darter the most famous obscure fish in the land. Now, although there have been no more conflicts of that scale, utility, mining, and other interests have submitted proposals that would seriously weaken the act. Basically, they want to compel the government to give much more weight to the anticipated economic values of a new project as opposed to the potential and thus essentially indefinable values of the plant or animal being threatened.

The Endangered Species Act outlines procedures for listing species as endangered or threatened, for forging cooperative agreements with state conservation agencies, and for designing recovery plans for endangered species. But the heart of the act is Section 7, which states that any action that involves a federal agency must not "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. . . ."

Amendments to the act passed in 1978 have added various procedural requirements that have slowed the listing process. They also stipulated a 2-year time limit for listing, which means that any species that has not reached the final stage within 2 years after it was first proposed has to be dropped from consideration and the process has to start all over again. The 1978 amendments also created an exemption process that was tailored specifically for the Tellico dam situation.*

For over 2 years, the listing process has been virtually frozen. The only new listings in 1981 (prepared under the last Administration) were of three plants and one genus (41 species) of Hawaiian tree snails. There were no new listings under the Reagan Administration until February when a shrimp whose habitat is within the National Zoo in Washington, D.C., was listed. When the 2-year time limit came into effect in 1979, the Office of Endangered Species (OES), the Interior Department agency that administers the act, had to withdraw about 1500 plants proposed for listing and start the review process all over again. Listings have been further slowed by the requirement that in most cases the critical habitat of a species must be described at the time of listing, and by executive orders from Carter and later from Reagan requiring economic analyses of the impacts of federal regulations.

The OES, already undermanned and underfunded, is now suffering further in the prodevelopment environment of the Interior Department. For fiscal 1982 the Administration reduced its budget from the 1981 figure of $25 million to $20 million, eliminating all the money for cooperative federal-state programs. The 1982 request calls for only $16.5 million, which would entail reduction of surveillance and enforcement.

Strong disagreement with Interior's attitude was reflected in a memorandum sent in December by OES chief John Spinks to his superiors in which he complained that the solicitor's office was arbitrarily rejecting analyses ("determinations of effect") that must accompany candidates for listing. Spinks suggested that the solicitor's actions "raise serious questions of legitimate policy decisions being precluded, circumvented, or subordinated by pseudo-legalistic ploys being used as excuses for delay."

Questioned by *Science*, Spinks put the best face on things. He acknowledged that activities did grind to a halt for a while, "but I think we're turning the corner now." He said the office still plans to list about 50 animal and plant species this fiscal year.

Spinks's apparent optimism notwithstanding, actions within the Interior Department do not portend much support for endangered species. Last summer, the assistant secretary for fish, wildlife and parks, G. Ray Arnett, notified the OES that priority attention for listing would no longer go to species in most immediate jeopardy. Rather, he stated the following order: mammals, birds, fishes, reptiles, amphibians, vascular plants, insects, mollusks, and other invertebrates. Since this reordering makes no sense scientifically, it can only be supposed that it was in response to the public's perceived preference for furry fluffy things.

Interior Secretary James Watt is not expected to leap to the defense of the act. In a letter to the chairmen of the House and Senate committees that oversee the act, he asserted that there was "universal agreement" that Section 7 needs changing, particularly with regard to "the need to streamline" the exemption process. He added that the "real payoff" in the act would be in recovery plans, an indication that, considering the state of the budget, work on new listings will get low priority. Watt refrained from further recommendations, and called for a 1-year reauthorization—an indication to environmentalists that he doesn't want to do anything politically unpopular until after the fall elections.

Luther C. Goldman/USFWS

Black-footed ferret

According to Michael Bean of the Environmental Defense Fund, the three main ways industry groups are attempting to alter the act are: weakening the provisions of Section 7, removing invertebrates from the act's protection, and injecting economic and other nonscien-

*This has been used in only two cases. In the Tellico case, the committee ruled that the dam should not be exempted from the act, so Congress went ahead and passed a law exempting it. The second case, the Grayrocks dam and reservoir on the Laramie River in Wyoming received an exemption in accord with a simultaneous court settlement requiring the establishment of a fund to support whooping crane habitat on the Platte River.

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tific considerations in decision-making at every level. Some groups, for example, want final decisions about federal actions under Section 7 to be left to the "action agency," and ultimately with Congress, thereby reducing the role of the OES. There is considerable pressure to compel narrower definitions of critical habitat and to strengthen the requirement that it be defined along with the listing of animal species. While this sounds sensible, the work involved in analyzing the habitat (including the economic effects of the designation) results, in practice, in major delays in listing.

Because few, if any, projects have been canceled because of the Endangered Species Act, critics are concentrating on the increased costs and delays occasioned by its requirements. Monsanto Corp., for example, in its submission to the Senate committee, complains that it sank $500,000 into studying the needs of the mud turtle that inhabits the Mississippi River near its plant in Muscatine, Iowa (designation of the turtle was withdrawn following a review of people selected by the National Academy of Sciences; Spinks however defends the listing). ASARCO, a mining company, says that it spent $85,000 protecting an alleged habitat of the grizzly bear in Montana's Cabinet Mountains, even though no grizzlies had been seen there for years. Union Camp Corp. protests that in order to spare the trees used by the red-cockaded woodpecker it is making sacrifices that amount to $3,826 per bird per year. Citing cases like Union Camp, the American Forest Products Association wants the law amended to permit government compensation to companies.

* * *

Recognizing that aesthetic arguments for species preservation do not carry much weight in the face of economic pressures, scientists are beginning to put much more emphasis on the practical benefits of species preservation. At hearings on 10 December before the environment subcommittee of the Senate Committee on Environment and Public Works, Cornell biologist Thomas Eisner noted that "restriction of diversity means restriction of the chemical treasure of nature," a treasure that so far has only been minimally explored. Alkaloids, for example, he said, have a wide range of uses, including anticancer activity, but only 2 percent of flowering plants have been tested for the presence of the compounds. Eisner related that only in the past few years his research group has isolated useful substances from invertebrate organisms including potential heart drugs from fireflies, a cockroach repellent from a millipede, and shark repellents from a marine mollusk. Eisner added that the new technology of gene transfer gives even added reasons for species protection. The loss of a species, he said, would "not simply mean the loss of one volume from the library of nature, but the loss of a loose-leaf book whose individual pages, were the species to survive, would remain available in perpetuity for selective transfer to other species."

Luther C. Goldman/U.S. Fish and Wildlife Service

Whooping cranes

At Aransas National Wildlife Refuge in Texas.

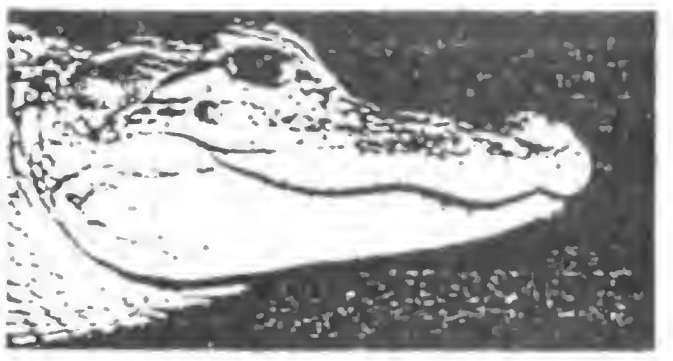
Peter H. Raven, director of the Missouri Botanical Garden, related that the evening primrose, one variety of which is protected by the Endangered Species Act, has been found to contain gamma-linolenic acid, which may have a role in controlling heart disease and arthritis.

Scientists seem to be having a hard time trying to communicate to policymakers that time is of the essence—more so than in many other areas of research because the subjects of their investigations are disappearing. The study of tropical forests, for example, the world's richest ecosystems which will have virtually disappeared by the end of the century, received only $30 million worldwide in 1980. As Harvard biologist E. O. Wilson says, "there is far more complexity in a handful of soil in Virginia than on all the planets." Yet we put more into planetary exploration than in finding out how humankind's life support system works. Great trade-offs would not even be required. Ecologist Norman Myers writes in his book, *The Sinking Ark*, "We know more about sectors of the moon's surface than we know about the depths of tropical rainforests; a switch of 10 percent of funding from space exploration into ecological understanding of our earth home would increase research budgets many times over, and would greatly enhance our skills in planetary management."

To almost any biologist, says Thomas Eisner, "the evidence seems overwhelming that in the case of the Endangered Species Act, we are not dealing with a situation in which legitimate goals conflict; rather we are witnessing a struggle to keep mankind's long-term options open in the face of threats by short-term interests."

* * *

Elimination of lower species from protection of the act would be the height of folly, according to Stanford biologist Paul Ehrlich, who observes that microorganisms are the workhorses in "ecosystem services." He says, "Every population you wipe out is a working part of a system" that can be providing pest control, soil maintenance, climate amelioration, nutrient cycling, waste disposal, air and water purification, flood control, and myriad other functions.



E. P. Haddon/USFWS

The world faces an unprecedented and probably unavoidable tragedy of unspeakable proportions in the coming decades. According to a National Research Council report on tropical biology, 1 million species may be lost by the end of this century, and more than half of all existing species could cease to exist by 2100.

In view of what is happening in the tropics, the protection offered by the Endangered Species Act may seem small. But as scientists insist, the law is vitally important as a symbol worldwide. If Congress does not take a firm position defending the act this year it will become increasingly difficult to establish and defend the principle that mankind's well-being depends on diversity of species.

—CONSTANCE HOLDEN

Endangered Reptiles and Amphibians - The Federal List

As the preceeding article has indicated, many species of plants and animals are facing the possibility of becoming extinct, including many species of amphibians and reptiles. The Department of the Interior, U.S. Fish and Wildlife Service has compiled a list of species that it believes to be threatened or endangered. The following list is from the most recent publication (50 CFR 17.11 and 17.12) Additionally, many states have laws to protect species that they believe to be threatened or endangered. Unfortunately at the current time Virginia is not one of those states.

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
REPTILES							
Alligator, American	*Alligator mississippiensis*	Southeastern U.S.A.	Wherever found in wild except those areas where listed as threatened as set forth below.	E	1, 11, 51, 60, 111	NA	NA
Do	do	do	U.S.A. (FL and certain areas of GA, SC, and TX, as set forth in sec. 17.42(a)(1)).	T	20, 47, 51, 60, 111	NA	17.42(a)
Do	do	do	U.S.A. (LA)	T(S/A)	11, 47, 51, 60, 111	NA	17.42(a)
Do	do	do	In captivity wherever found.	T(S/A)	11, 47, 51, 111	NA	17.42(a)
Alligator, Chinese	*Alligator sinensis*	China	Entire	E	15	NA	NA
Anole, Culebra giant	*Anolis roosevelti*	U.S.A. (Puerto Rico; Culebra Island)	do	E	25	17.95(c)	NA
Boa, Jamaican	*Epicrates subflavus*	Jamaica	do	E	3	NA	NA
Boa, Mona	*Epicrates monensis monensis*	U.S.A. (Puerto Rico)	do	T	33	17.95(c)	NA
Boa, Puerto Rico	*Epicrates inornatus*	do	do	E	2	NA	NA
Boa, Round Island (no common name).	*Casarea dussumieri*	Indian Ocean, Mauritius	do	E	88	NA	NA
Boa, Round Island (no common name).	*Bolyeria multocarinata*	Indian Ocean Mauritius	do	E	88	NA	NA
Boa, Virgin Islands tree	*Epicrates monensis granti*	U.S. and British Virgin Islands	do	E	2, 86	NA	NA
Caiman, Apaporis River	*Caiman crocodilus apaporiensis*	Colombia	do	E	15	NA	NA
Caiman, black	*Melanosuchus niger*	Amazon basin	do	E	15	NA	NA
Caiman, broad-snouted	*Caiman latirostris*	Brazil, Argentina, Paraguay Uruguay	do	E	15	NA	NA
Caiman, Yacare	*Caiman crocodilus yacare*	Bolivia, Argentina, Peru, Brazil	do	E	3	NA	NA
Chuckwalla, San Esteban Island	*Sauromalus varius*	Mexico	do	E	86	NA	NA
Crocodile, African dwarf	*Osteolaemus tetraspis tetraspis*	West Africa	do	E	15	NA	NA
Crocodile, African slender-snouted	*Crocodylus cataphractus*	Western and central Africa	do	E	5	NA	NA
Crocodile, American	*Crocodylus acutus*	U.S.A. (FL), Mexico South America, Central America, Caribbean	do	E	10, 87	17.95(c)	NA
Crocodile, Ceylon mugger	*Crocodylus palustris kimbula*	Sri Lanka	do	E	15	NA	NA
Crocodile, Congo dwarf	*Osteolaemus tetraspis osborni*	Congo River drainage	do	E	15	NA	NA
Crocodile, Cuban	*Crocodylus rhombifer*	Cuba	do	E	3	NA	NA
Crocodile, Morelet's	*Crocodylus moreletii*	Mexico, Belize, Guatemala	do	E	3	NA	NA
Crocodile, mugger	*Crocodylus palustris palustris*	India, Pakistan, Iran, Bangladesh	do	E	15	NA	NA
Crocodile, Nile	*Crocodylus niloticus*	Africa	do	E	3	NA	NA
Crocodile, Orinoco	*Crocodylus intermedius*	South America Orinoco River Basin	do	E	3	NA	NA
Crocodile, Philippine	*Crocodylus novaeguineae mindorensis*	Philippine Islands	do	E	15	NA	NA
Crocodile, saltwater (=estuarine)	*Crocodylus porosus*	Southeast Asia, Australia, Papua-New Guinea, Pacific Islands	Entire, except Papua-New Guinea	E	87	NA	NA
Crocodile, Siamese	*Crocodylus siamensis*	Southeast Asia, Malay Peninsula	Entire	E	15	NA	NA
Gavial (=ghanial)	*Gavialis gangeticus*	Pakistan, Burma, Bangladesh, India	do	E	3, 15	NA	NA
Gecko, day	*Phelsuma edwardnewtoni*	Indian Ocean Mauritius	do	E	3	NA	NA
Gecko, Round Island day	*Phelsuma guentheri*	Indian Ocean Mauritius	do	E	3	NA	NA
Iguana, Anegada ground	*Cyclura pinguis*	West Indies British Virgin Islands (Anegada Island)	do	E	3	NA	NA
Iguana, Barrington land	*Conolophus pallidus*	Ecuador (Galapagos Island)	do	E	3	NA	NA
Iguana, Fiji banded	*Brachylophus bulabulae*	Fiji Tonga	do	E	88	NA	NA
Iguana, Fiji crested	*Brachylophus vitiensis*	Fiji	do	E	88	NA	NA
Iguana, Mona ground	*Cyclura stejnegeri*	U.S.A. (Puerto Rico) Mona Island)	do	T	33	17.95(c)	NA
Lizard, blunt-nosed leopard	*Gambelia (=Crotaphytus) silus*	U.S.A. (California)	do	E	1	NA	NA
Lizard, Coachella Valley fringe-toed	*Uma inornata*	do	do	T	105	17.95(c)	NA
Lizard, Island night	*Xantusia (=Klauberina) riversiana*	do	do	T	26	NA	NA
Lizard, St. Croix ground	*Ameiva polops*	U.S.A. (Virgin Islands Green Cay, Protestant Cay)	do	E	24	17.95(c)	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Monitor, Bengal	*Varanus bengalensis*	Iran, Iraq, India, Sri Lanka, Malaysia, Afghanistan, Burma, Vietnam, Thailand	do	E	15	NA	NA
Monitor, desert	*Varanus griseus*	North Africa to Neareast, Caspian Sea through U.S.S.R. to Pakistan, Northwest India	do	E	15	NA	NA
Monitor, Komodo Island	*Varanus komodoensis*	Indonesia (Komodo, Rintja, Padar, and western Flores Island	do	E	15	NA	NA
Monitor, yellow	*Varanus flavescens*	West Pakistan through India to Bangladesh	do	E	15	NA	NA
Python, Indian	*Python molurus molurus*	Sri Lanka and India	do	E	15	NA	NA
Rattlesnake, New Mexican ridge-nosed	*Crotalus willardi obscurus*	U.S.A. (NM), Mexico	do	T	40	17.95(c)	NA
Snake, Atlantic salt marsh	*Nerodia fasciata taeniata*	U.S.A. (Florida)	do	T	30	NA	NA
Snake, eastern indigo	*Drymarchon corais couperi*	U.S.A. (AL, FL, GA, MS, SC)	do	T	32	NA	NA
Snake, San Francisco garter	*Thamnophis sirtalis tetrataenia*	U.S.A. (California)	do	E	1	NA	NA
Tartaruga	*Podocnemis expansa*	South America: Orinoco and Amazon River basins.	do	E	3	NA	NA
Terrapin, river (=Tuntong)	*Batagur baska*	Malaysia, Bangladesh, Burma, India, Indonesia	do	E	3	NA	NA
Tomistoma	*Tomistoma schlegelii*	Malaysia, Indonesia	do	E	15	NA	NA
Tortoise, angulated	*Geochelone yniphora*	Malagasy Republic (=Madagascar)	do	E	15	NA	NA
Tortoise, Bolson	*Gopherus flavomarginatus*	Mexico	do	E	46	NA	NA
Tortoise, desert	*Gopherus agassizii*	U.S.A.(Utah, Arizona, California, Nevada), Mexico	Beaver Dam Slope, Utah	T	103	17.95(c)	NA
Tortoise, Galapagos	*Geochelone elephantopus*	Ecuador (Galapagos Islands)	Entire	E	3	NA	NA
Tortoise, Indian flap-shell	*Lissemys punctata punctata*	India, Pakistan, Bangladesh	do	E	15	NA	NA
Tortoise, radiated	*Geochelone (=Testudo) radiata*	Malagasy Republic (=Madagascar)	do	E	3	NA	NA
Tracaja	*Podocnemis unifilis*	South America; Orinoco and Amazon River basins	do	E	3	NA	NA
Tuatara	*Sphenodon punctatus*	New Zealand	do	E	3	NA	NA
Turtle, aquatic box	*Terrapene coahuila*	Mexico	do	E	6	NA	NA
Turtle, black softshell	*Trionyx nigricans*	Bangladesh	do	E	15	NA	NA
Turtle, Burmese peacock	*Morenia ocellata*	Burma	do	E	15	NA	NA
Turtle, Cuatro Cienegas softshell	*Trionyx ater*	Mexico	do	E	15	NA	NA
Turtle, geometric	*Geochelone geometrica*	Union of South Africa	do	E	15	NA	NA
Turtle, green sea	*Chelonia mydas*	Circumglobal in tropical and temperate seas and oceans.	Wherever found except where listed as endangered below.	T	42	N/A	17.42(b) and Parts 220 and 227.
Turtle, green sea	*Chelonia mydas*	do	Breeding colony populations in FL and on Pacific coast of Mexico	E	42	NA	NA
Turtle, hawksbill sea (=carey)	*Eretmochelys imbricata*	Tropical seas	Entire	E	3	NA	NA
Turtle, Indian sawback	*Kachuga tecta tecta*	India	do	E	15	NA	NA
Turtle, Indian softshell	*Trionyx gangeticus*	Pakistan, India	do	E	15	NA	NA
Turtle, Kemp's (=Atlantic) Ridley sea	*Lepidochelys kempi*	Tropical and temperate seas	do	E	4	NA	NA
Turtle, leatherback sea	*Dermochelys coriacea*	Tropical, temperate, and subpolar seas.	do	E	3	17.95(c)	NA
Turtle, loggerhead sea	*Caretta caretta*	Circumglobal in tropical and temperate seas and oceans	do	T	42	NA	*17.42(b) and Parts 220 and 227.
Turtle, Olive (Pacific) Ridley sea	*Lepidochelys olivacea*	do	Wherever found except where listed as endangered below.	T	42	NA	*17.42(b) and Parts 220 and 227.
Turtle, Olive (Pacific) Ridley sea	*Lepidochelys olivacea*	do	Breeding colony populations on Pacific coast of Mexico	E	42	NA	NA
Turtle, peacock softshell	*Trionyx hurum*	India, Bangladesh	Entire	E	15	NA	NA
Turtle, Plymouth red-bellied	*Pseudemys (=Chrysemys) rubriventris bangsi*	U.S.A. (Massachusetts)	do	E	90	17.95(c)	NA
Turtle, short-necked or western swamp	*Pseudemydura umbrina*	Australia	do	E	3	NA	NA
Turtle, spotted pond	*Geoclemmys (=Damonia) hamiltonii*	North India, Pakistan	do	E	15	NA	NA
Turtle, three-keeled Asian	*Geoemyda (=Nicoria) tricarinata*	Central India to Bangladesh and Burma	do	E	15	NA	NA
AMPHIBIANS							
Coqui, golden	*Eleutherodactylus jasperi*	U.S.A. (Puerto Rico)	do	T	29	17.95(d)	NA
Frog, Israel painted	*Discoglossus nigriventer*	Israel	do	E	3	NA	NA
Frog, Panamanian golden	*Atelopus varius zeteki*	Panama	do	E	15	NA	NA
Frog, Stephen Island	*Leiopelma hamiltoni*	New Zealand	do	E	3	NA	NA
Salamander, Chinese giant	*Andrias davidianus davidianus*	Western China	do	E	15	NA	NA
Salamander, desert slender	*Batrachoseps aridus*	U.S.A. (California)	do	E	6	NA	NA
Salamander, Japanese giant	*Andrias davidianus japonicus*	Japan	do	E	15	NA	NA
Salamander, Red Hills	*Phaeognathus hubrichti*	U.S.A. (Alabama)	do	T	19	NA	NA
Salamander, San Marcos	*Eurycea nana*	U.S.A. (Texas)	do	T	98	17.95(d)	17.43(a)
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ACTIVITIES

An annual meeting is held each August at a university or field station in the United States. Informal and relatively inexpensive facilities are chosen to encourage student participation. Contributed papers, symposia, workshops, and a variety of exhibits contribute to make this week-long meeting the world's major annual herpetological gathering. The Society makes a concerted effort to involve a diverse segment of its membership in committee activities designed to further our knowledge of amphibians and reptiles and manage the affairs of the Society. Committees include: Annual Meeting, Common and Scientific Names, Grants-in-Herpetology, Herpetological Habitats, Kennedy Award, Legislative Alert, Nominating, Regional Society Liaison, Translations, and Zoo Liaison.

PUBLICATIONS

The *Journal of Herpetology* is the Society's official scientific publication. It is international in scope and broadly covers the biology of amphibians and reptiles. Manuscripts or reviews of any length in English on original research, whether by members or not, are invited. *Herpetological Review* has been the principal newsletter of the herpetological community since 1967. It contains information about people, institutions, programs, and events of interest, including conservation news, geographic distribution records, life history notes, book reviews, regional society news, articles on care of captive specimens, and advertisements of herpetologically related products. A primary service of *Herpetological Review* is publication of a list of "Current Herpetological Titles" to keep readers abreast of the literature. Titles are obtained from a regular search of hundreds of biological journals by members of the Society. *The Facsimile Reprints in Herpetology* series was begun in 1961 to make rare and important books and papers on amphibians and reptiles available once again. All are exact copies with new introductions, indexes, or other features. Selected titles include: Dunn's *Salamanders of the Family Plethodontidae*, Holbrook's *North American Herpetology*, and Gloyd's *Rattlesnakes*. The *Herpetological Circulars* series started in 1973 and serves a broad spectrum of people with an interest in herpetology. Selected titles include: *A Guide to Preservation Techniques for Amphibians and Reptiles*, *A Brief Outline of Suggested Treatments for Diseases of Captive Reptiles*, and *A Brief History of Herpetology in North America before 1900. Contributions to Herpetology is a new book-length series issued on an irregular basis which comprises the results of taxonomic treatises, symposia, and other comprehensive monographs on amphibian and reptile biology. The first volume, entitled Reproductive Biology and Diseases of Captive Reptiles*, was issued in 1980. The *Catalogue of American Amphibians and Reptiles* is a series of loose-leaf accounts, each giving a wealth of information about a particular genus or species, including common and scientific names, a description, fossil record, a distribution map, and a literature survey. It is an essential reference for all biologists using amphibians and reptiles in research.

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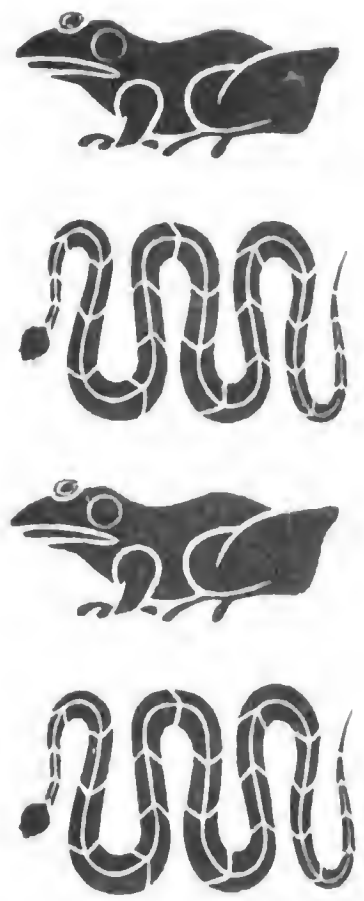

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